UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/032,394	12/19/2001	Adityo Prakash	10006.000610	5415

31894 7590 09/07/2007
OKAMOTO & BENEDICTO, LLP
P.O. BOX 641330
SAN JOSE, CA 95164

EXAMINER	
ROSARIO, DENNIS	

ART UNIT	PAPER NUMBER
2624	

MAIL DATE	DELIVERY MODE
09/07/2007	PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No.	Applicant(s)
	10/032,394	PRAKASH ET AL.
	Examiner	Art Unit
	Dennis Rosario	2624

-- *The MAILING DATE of this communication appears on the cover sheet with the correspondence address* --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *30 July 2007*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-42* is/are pending in the application.

4a) Of the above claim(s) *5 and 11-14* is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-4,6-10 and 15-42* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on *28 February 2002* is/are: a)☒ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____.
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

DETAILED ACTION

Continued Examination Under 37 CFR 1.114

1. A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on 7/30/07 has been entered.

Response to Amendment

2. The amendment was received on 6/8/07 and entered on 7/30/07. Claims 1-42 are pending.

Election/Restrictions

3. Restriction to one of the following inventions is required under 35 U.S.C. 121:

   I. Claims 1-4,6-10 and 15-42, drawn to convolution, classified in class 382, subclass 279.

   II. Claims 5 and 11-14, drawn to interpolation, classified in class 382, subclass 300.

The inventions are distinct, each from the other because of the following reasons:

Inventions I and II are related as subcombinations disclosed as usable together in a single combination. The subcombinations are distinct if they do not overlap in scope and are not obvious variants, and if it is shown that at least one subcombination is separately usable. In the instant case, subcombination II has separate utility such as interpolation. See MPEP § 806.05(d).

The examiner has required restriction between subcombinations usable together. Where applicant elects a subcombination and claims thereto are subsequently found allowable, any claim(s) depending from or otherwise requiring all the limitations of the allowable subcombination will be examined for patentability in accordance with 37 CFR 1.104. See MPEP § 821.04(a). Applicant is advised that if any claim presented in a continuation or divisional application is anticipated by, or includes all the limitations of, a claim that is allowable in the present application, such claim may be subject to provisional statutory and/or nonstatutory double patenting rejections over the claims of the instant application.

4. Because these inventions are independent or distinct for the reasons given above and there would be a serious burden on the examiner if restriction is not required because the inventions have acquired a separate status in the art in view of their different classification, restriction for examination purposes as indicated is proper.

5. During a telephone conversation with James Okamoto on 8/27/07 a provisional election was made without traverse to prosecute the invention of Group I, claims 1-4,6-10 and 15-42. Affirmation of this election must be made by applicant in replying to this Office action. Claims 5 and 11-14 withdrawn from further consideration by the examiner, 37 CFR 1.142(b), as being drawn to a non-elected invention.

Specification

6. The specification is objected because:

a) it does not contain a "Brief Description of the Drawings" section;

b) there is no figure 5E as indicated on page 9,line 21; and

c) "...Fig 7D, the reconstructed result would be as shown in Fig. 7E. The associated error...is shown in Fig. 7F." ought to be amended to

"...Fig 7<u>E</u>, the reconstructed result would be as shown in Fig. 7<u>F</u>. The associated error...is shown in Fig. 7<u>G</u>."

Claim Rejections - 35 USC § 112

7. The following is a quotation of the first paragraph of 35 U.S.C. 112:

> The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

8. Claims 32 and 41 are rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the written description requirement. The claim(s) contains subject matter which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventor(s), at the time the application was filed, had possession of the claimed invention.

Claim 32 claims “coefficients that are nonlinear functions of pixel values”. The claimed “nonlinear functions” was not found in the specification and will not be given patentable weight.

Claim 41 is rejected for similar reasons as claim 32.

9. The following is a quotation of the second paragraph of 35 U.S.C. 112:

> The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

10. Claims 3 and 4 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

11. Claim 3, lines 10 and 11 recites the limitations "the resultant decomposition coefficients" and “the quantized values”. There is insufficient antecedent basis for this limitation in the claim.

Claim 4 is rejected for the same reasons as claim 3.

Response to Arguments

12. Applicant’s arguments, see remarks, page 8, last paragraph, filed 7/30/07, with respect to the rejection(s) of claim(s) 1-4 under 102(b) have been fully considered and are persuasive. Therefore, the rejection has been withdrawn. However, upon further consideration, a new ground(s) of rejection is made, below.

Claim Rejections - 35 USC § 102

13. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless –
>
> (e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

14. Claims 1,2,16,17,26-30,33,34 and 36 are rejected under 35 U.S.C. 102(e) as being anticipated by Lee et al. (US Patent 6,539,060 B1).

Regarding claim 1, Lee discloses a method of processing a multi-dimensional signal with arbitrarily shaped domain (fig. 8B: "Edge pixel") via a multi-scale transform comprising the steps of:

a) obtaining the multi-dimensional signal (via fig. 1:COMPRESSED BITSTREAM); and

b) performing a domain adaptive transform (via fig. 1,numerals 20 and 10) where 10 corresponds to the claimed transform and 20 corresponds to the claimed domain adaptive) on the signal, wherein the domain adaptive transform comprises:

b1) a transform (fig. 1:IDCT) in which a convolution operator ("convolution operation" in col. 11, line 44) is applied (via fig. 1,num. 130 since num. 130 operates on the transformed signal of IDCT or DECODED IMAGE) to process pixels near a boundary (corresponding to "EX.2" in fig. 8B) of the domain (fig. 8B: "8X8 BLOCK) but is not applied (as indicated in fig. 8B as "No Processing") to process pixels in an interior of the domain.

Claim 2 is rejected the same as claim 1. Thus, argument similar to that presented above for claim 1 is equally applicable to claim 2 except for the additional limitation as disclosed in Lee of :

a) breaking the image frame into constituent arbitrary shaped domains (via "edge detection" in col. 10, line 59 the result of which is shown in fig. 8B that breaks or separates or distinguishes edge pixels, which are arbitrarily shaped when considered as a group of edge pixels, from non-edge pixels) , or such a set, that cover all or a portion of the original multidimensional signal domain.

Regarding claim 16, Lee discloses the method as in any one of claims 2 or 6 where the multi-dimensional image frame is an intra-frame ("intra-VOP" in col. 2, line 43) for a sequence of video images.

Regarding claim 17, Lee discloses the method as in any one of claims 2 or 6 where the multi-dimensional image frame is a residue frame ("residual signal" in col. 3, line 39) for a sequence of video images.

Regarding claim 26, Lee discloses the method as in any one of claims 1 or 6 where the domain adaptive transform is applied such that points external (fig. 8B: "Non-edge pixel") to the arbitrarily shaped domain (fig. 8B: "Edge pixel") but within support of the filter (fig. 8A) are included in a mathematical result of a convolution or weighted average / difference but are further multiplied (or re-weighted) by another set of weighting factors (as indicated in TABLE 1 in col. 11 to col. 12 that describes various weight combinations in the context of edges and the kernel).

Regarding claim 27, Lee discloses the method of claim 26 where the set of additional multiplicative factors (said TABLE 1) is determined as a result of calculation of a local measure (via said edge detection) characterizing a transition (as shown in fig. 8B, top most left Edge pixel and adjacent left Non-edge pixel) at a boundary of the arbitrary domain (Edge pixel).

Regarding claim 28, Lee discloses the method of claim 27 where the measure (said edge detection) is based on a statistical function ("Average" in col. 10, line 35) of a plurality of pixel value differences ("value[m]-Average" in col. 10, line 35) across the boundary transition (where said "value[m]-Average" corresponds to corners as shown in fig. 7C of an 8x8 block as shown in fig. 7B and shown again, unlabeled in fig, 8B where said top left most Non-edge pixel is part of said transition).

Claims 29 and 30 are rejected the same as claim 28. Thus, argument similar to that presented above for claim 28 is equally applicable to claims 29 and 30.

Regarding claim 33, Lee discloses the method of claim 28 where
the statistical function is a pre-determined constant (since the Average is divided by a constant as shown in col. 10, line 31).

Claim 34 is rejected the same as claim 27. Thus, argument similar to that presented above for claim 27 is equally applicable to claim 34.

Regarding claim 36, Lee discloses the method of claim 34 where the calculation of the local measure is based on a motion compensated model frame (fig. 1: MOTION COMPENSATOR) (or equivalent) that has already been decoded and thus made known to the decoder by the time of the inverse transform step in the context of a encoder-decoder system related to the efficient transmission or storage of a sequence of video data (the unaddressed limitations above are well known to one of ordinary skill in the art of encoding/decoding frames).

15. Claim 1 is rejected under 35 U.S.C. 102(e) as being anticipated by Lee et al. (US Patent 5,877,813).

Regarding claim 1, Lee discloses a method of encoding all or a portion of a multi-dimensional signal with an arbitrarily shaped domain or all or a portion of a multi-dimensional signal via a multi-scale transform comprising the steps of:

a) obtaining the multi-dimensional signal (fig. 1: VIDEO DATA);

b) performing the domain adaptive transform (fig. 1,num. 307) on the signal, wherein the domain adaptive transform comprises:

b1) a transform (the output of fig. 1,num. 307 is a transformed image) in which a convolution operator (as indicated in fig. 3:AVERAGE FILTERING) is applied to process pixels near a boundary (as shown in fig. 3 as five shaded squares that are near the operation of the average filter) of the domain (fig. 3: BINARY EDGE MAP) but is not applied (since a WEIGHT FILTERING of fig. 3 is being applied instead) to process pixels in an interior of the domain (fig. 3: BINARY EDGE MAP).

16. Claims 1,26-28,31,32 and 37-42 are rejected under 35 U.S.C. 102(e) as being anticipated by Maurer et al. (US Patent 6,731,821 B1).

Regarding claim 1, Maurer discloses a method of encoding all or a portion of a multi-dimensional signal with an arbitrarily shaped domain or all or a portion of a multi-dimensional signal via a multi-scale transform comprising the steps of:

a) obtaining the multi-dimensional signal (indicated as "I" in fig. 1);

b) performing the domain adaptive transform (or color space "transform" in col. 9, line 44) on the signal, wherein the domain adaptive transform comprises:

b1) a transform (said color transform) in which a convolution operator (or smoothing filter in fig. 1,num. 10) is applied to process pixels near a boundary (so as to smooth an edge while preserving the edge as done in 10) of the domain (of the filter's kernel as shown in fig. 3 that is "not limited to any particular geometry" in col. 9, lines 23,24) but is not applied to process pixels (said edge that is preserved or not processed) in an interior of the domain (or said kernel).

Regarding claim 26, Maurer discloses the method as in any one of claims 1 or 6 where the domain adaptive transform is applied such that points external (corresponding to said pixel to be smoothed) to the arbitrarily shaped domain but within support of the filter (said smoothing filter) are included in a mathematical result of a convolution or weighted average / difference (or said filter) but are further multiplied (or re-weighted) by another set of weighting factors (corresponding to a sharpening filter in fig. 1, num. 11).

Regarding claim 27, Maurer discloses the method of claim 26 where the set of additional multiplicative factors is determined as a result of calculation of a local measure "or "edge preserving technique" in col. 3, lines 29,30) characterizing a transition at a boundary of the arbitrary domain.

Regarding claim 28, Maurer discloses the method of claim 27 where the measure is based on a statistical function (or "weighted average" in col. 3, line 56) of a plurality of pixel value differences (corresponding to "differentiated" in col. 3, line 62) across the boundary transition.

Claims 31 and 32 are rejected the same as claim 28. Thus, argument similar to that presented above for claim 28 is equally applicable to claims 31 and 32.

Regarding claim 37, Maurer discloses the method as in any one of claims 25 or 26 where a function for renormalization, i.e. replacement of missing filter coefficients (as indicated by the "X" in fig. 3), is accomplished by a statistical function (or "weighted average" in col. 3, line 56) of remaining pixel values which are located at points contained within the arbitrary shaped domain.

Claims 38-41 are rejected the same as claim 37. Thus, argument similar to that presented above for claim 37 is equally applicable to claims 38-41.

Regarding claim 42, Maurer discloses the method of claim 37 where some form of outlier rejection is used (said smoothing filter) to ensure that outliers (or noise) remaining inside the intersection of the domain and the filter support do not disrupt the local accuracy or efficiency of the transform (since Maurer's invention enhances compression).

Claim Rejections - 35 USC § 103

17. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

18. Claims 2-4,6-10,15,18-30,34 and 35 are rejected under 35 U.S.C. 103(a) as being unpatentable over Lee et al. (US Patent 5,877,813) in view of Das et al. (US Patent 5,896,176).

Regarding claim 3, Lee teaches a method of encoding all or a portion of a multi-dimensional signal with an arbitrarily shaped domain or all or a portion of a multi-dimensional signal via a multi-scale transform comprising the steps of:

a) obtaining the multi-dimensional signal (fig. 1: VIDEO DATA);

b) performing the domain adaptive transform (fig. 1,num. 307) on the signal, wherein the domain adaptive transform <u>comprises</u>:

b1) a transform (the output of fig. 1,num. 307 is a transformed image) in which <u>a filter (fig. 1,num. 310) comprising:</u>

b11) <u>convolution operator</u> (as indicated in fig. 3:AVERAGE FILTERING) is applied to process pixels near a boundary (as shown in fig. 3 as five shaded squares that are near the operation of the average filter) of the domain (fig. 3: BINARY EDGE MAP) <u>but is not</u> applied (since a WEIGHT FILTERING of fig. 3 is being applied instead) to process pixels in an interior of the domain (fig. 3: BINARY EDGE MAP);

c) quantizing (fig. 1,num. 304) the resultant decomposition coefficients; and

d) encoding (fig. 1,num. 305) and transmitting (represented as "p" in fig. 1) the quantized values over an information channel to a decoder ("decoding" in col. 5, line 64) for reconstruction of an approximated signal.

Lee does not teach the claimed decomposition coefficients, but teaches using an orthogonal transform as shown in fig. 1,num. 303.

Das teaches using an orthogonal transform or "biorthogonal wavelets" in col. 11, line 17 and the claimed decomposition coefficients represented as the output of fig. 12:WAVELET DECOMPOSITION.

It would have been obvious at the time the invention was made to one of ordinary skill in the art to modify Lee' teaching of using an orthogonal transform with Das's biorthogonal wavelets since the orthogonal characteristic of the wavelet enables a transform to be "easily computed" in col. 10, line 53.

Claims 2 and 4 are rejected the same as claim 3. Thus, argument similar to that presented above for claim 3 is equally applicable to claims 2 and 4.

Regarding claim 7, Lee of the combination teaches the method of claim 3 where step b comprises of:

a) a combined (via fig. 1,num. 302) domain (fig. 1:VIDEO DATA) and pattern adaptive transform (fig. 1,num. 303 since 303 uses results from the output of fig. 1,num. 310, which is of an adapted signal, the output of fig. 2,num. 60).

Claim 8 is rejected the same as claim 7. Thus, argument similar to that presented above for claim 7 is equally applicable to claim 8.

Regarding claim 9, the Das of the combination teaches the method as in claim 3 where instead of transmitting over an information channel the encoded data is placed onto a storage apparatus (or BUFFER in fig. 15b) or mechanism for the purpose of efficient storage and later decoding.

Claim 6 is rejected the same as claim 7. Thus, argument similar to that presented above for claim 7 is equally applicable to claim 6.

Regarding claim 10, Das of the combination teaches the method as in claim 3 where instead of directly quantizing the resultant decomposition coefficients and then encoding, the coefficients are passed through a bit-plane encoder (fig. 12: ZEROTREE).

Regarding claim 15, Das of the combination teaches the method as in any one of claims 2 or 6 where the multi-dimensional image frame is a still image frame ("single images" in col. 11, line 46).

Regarding claim 18, Das of the combination teaches the method as in any one of claims 1 or 6 where the domain adaptive transform is applied during the calculation of coarser scale representations (since Das teaches a wavelet decomposition and reconstruction) in a forward transform of a multi-scale transform.

Claims 19 and 20 are rejected the same as claim 18. Thus, argument similar to that presented above for claim 18 is equally applicable to claims 19 and 20.

Claims 21 and 22 are rejected the same as claim 3. Thus, argument similar to that presented above for claim 3 is equally applicable to claims 21 and 22.

Claims 23 and 24 are rejected the same as claims 19 and 3, paragraph c). Thus, argument similar to that presented above for claims 19 and 3c) is equally applicable to claims 23 and 24, respectively.

Regarding claim 25, Das of the combination teaches the method as in any one of claims 1 or 6 where the domain adaptive transform is applied such that points external to the arbitrary domain (represented in fig 12 as ZERO IMAGE OUTSIDE REGION) but within support of a filter (or filters) (corresponding to fig. 12: WAVELET DECOMPOSITION) are excluded from a mathematical result of a convolution (since wavelets include convolutions or LP and HP filters) or weighted average / difference.

Regarding claim 26, Lee of the combination teaches the method as in any one of claims 1 or 6 where the domain adaptive transform is applied such that points external (or "outer neighbor pixels" in col. 5, line 45) to the arbitrarily shaped domain but within support of the filter are included in a mathematical result of a convolution (corresponding to fig. 4A) or weighted average / difference but are further multiplied (or re-weighted) by another set of weighting factors (or "set to zero" in col. 5, line 45).

Regarding claim 27, Lee of the combination teaches the method of claim 26 where the set of additional multiplicative factors (corresponding to fig. 4C) is determined as a result of calculation of a local measure (via equation (2) in column 4) characterizing a transition at a boundary of the arbitrary domain.

Regarding claim 28, Lee of the combination teaches the method of claim 27 where the measure is based on a statistical function ("mean value" in col. 4, line 14) of a plurality of pixel value differences (as shown in equations (2) and (3) in column 4) across the boundary transition.

Claims 29 and 30 are rejected the same as claim 28. Thus, argument similar to that presented above for claim 28 is equally applicable to claims 29 and 30.

Regarding claim 34, Lee of the combination teaches the method of claim 26 where the set of additional multiplicative factors is determined as a result of calculation of a local measure (fig. 2,num. 40) characterizing a transition at the boundary of the arbitrarily shaped domain and the calculation of the local measure is dependent on data (fig. 2,num. 20) which is available (via fig. 1, labels p, t, qz, q and v) to a decoder at the time of an operation when envisioned as part of an inverse transform (the unaddressed limitation, above, is known to one of skill in encoding/decoding) or reconstruction phase of a multi-scale transform.

Regarding claim 35, Das of the combination teaches the method of claim 34 where the calculation of the local measure is based on one or more coarser scales of representation (via the wavelets) of the signal which have already been decoded and thus made known to the decoder by the time of the inverse transform step (the unaddressed limitation, above, is known to one of skill in encoding/decoding).

Conclusion

19. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Dennis Rosario whose telephone number is (571) 272-7397. The examiner can normally be reached on 9-5.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Matthew Bella can be reached on (571) 272-7778. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

DR
Dennis Rosario
Unit 2624

Matthew C. Bella

MATTHEW C. BELLA
SUPERVISORY PATENT EXAMINER
TECHNOLOGY CENTER 2600